Exhibit P-40, BUDGET ITEM JUSTIFICATION

DATE: **FEBRUARY 2004**

APPROPRIATION/BUDGET ACTIVITY
Aircraft Procurement, Navy/APN-5 Aircraft Modifications

P-1 ITEM NOMENCLATURE
MV-22 MODIFICATION

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total
QTY		A										
COST (In Millions)	**52.0**	A		**4.0**	**4.8**	**3.4**	**19.1**	**23.9**	**24.4**	**24.9**	**378.8**	**535.4**

The V-22 is a tilt-rotor, vertical takeoff and landing aircraft currently being developed for joint service application. The program is being designed to provide an aircraft to meet the amphibious/vertical assault needs of the Marine Corps, the strike rescue needs of the Navy, and supplement USSOCOM special mission aircraft. The aircraft will be capable of flying 2,100 miles with one refueling, giving the Services the advantage of a Vertical/Short Takeoff and Landing (V/STOL) aircraft the could rapidly self-deploy to any location in the world.

The FY 2004 budget request reflects the funding level necessary to correct currently known deficiencies and allow the program to move forward. The FY 2004 modifications program procures retrofit kits necessary to correct discrepancies identified during initial flight testing as well as those resulting from any redesign efforts.

The current procurement objective is 458. 360 MV-22 Marine Corps aircraft (includes one Maintenance Trainer), 50 CV-22 aircraft for USSSOCOM (funded by USSOCOM and the Air Force) and 48 HV-22 Navy aircraft. A total of 10 V-22 aircraft have been delivered. FY-01 and FY-02 is the retrofit procurement associated with the current available (8) aircraft, (3) simulator(s) and (1) aircraft maintenance trainer. FY-06 begins the procurement of retrofit kits for additional outyear delivered aircraft.

Type Modifications: Safety, Reliability, Increased Service Life, Improved Mission Capabilities

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total
22-01	**MV-22 Correction of Deficiencies and Pre Block A through C**	**52.0**	**4.0**	**4.8**	**3.4**	**19.1**	**23.9**	**24.4**	**24.9**	**378.8**	**535.4**
	Total	**52.0**	**4.0**	**4.8**	**3.4**	**19.1**	**23.9**	**24.4**	**24.9**	**378.8**	**535.4**

Note: Totals may not add due to rounding.

Exhibit P-3a | Individual Modification | FEBRUARY 2004

MODIFICATION TITLE: **V-22 CORRECTIONS OF DEFICIENCIES AND PRE BLOCK A THROUGH C**

MODELS OF SYSTEMS AFFECTED: **MV-22** TYPE MODIFICATION: SAFETY, RELIABILITY, INCREASED SERVICE LIFE, IMPROVED MISSION CAPABILITY

DESCRIPTION/JUSTIFICATION:

ECP-344:

REGULATED CONVERTER: Incorporates fixes to alleviate concerns associated with spec compliance and eliminate nuisance failures for fleet aircraft.
SHAFT DRIVEN COMPRESSOR SCREEN: Incorporates a new shaft drive compressor screen with one piece inner and outer frames to reduce the number of parts and larger holes to increase air flow.
RAMP ACTUATOR: Incorporates fixes for reliability and life limit deficiencies. There are two ramp actuators per aircraft.
CARGO RESTRAINT SYSTEM: Changes the cargo restraint factors from a dynamic to a static tie down system to improve Fleet suitability.
FUEL ISOLATION TUBES: Incorporates the productionized final design for resistive tubes on hoses for lightning strike protection.
AVIONICS: Avionics modifications to the V-22 will improve display reliability, eliminate communication security issues and alleviate parts obsolescence/vendor problems. Changes to the V-22 avionics will include: Display System upgrade, Cockpit Inter Communication System modification, upgraded Mission Computer, updated Data Transfer Module, Control Display Unit/Engine Instrument Caution Advisory System upgrade, Control Display Unit Keyboard upgrad, and Avionics Interface Units upgrades.
POWER TRANSMISSION AND CONTROL: Changes to the V-22 Power Transmission and Control System will improve reliability and maintainability. Changes to the V-22 Power Transmission and Control System will include: swashplate reliability upgrades, engine gimbal ring/spherical bearing installation revision, updated refuel/defuel valve, bull gear shroud and engine gimbal ring.
COCKPIT: Changes to the V-22 cockpit will improve crew safety, mission suitability and overall reliability. Changes to the V-22 cockpit include: night vision goggle compatible hardware, upgraded inertial reels, upgraded pilot and co-pilot restraint system, throttle control lever soft stop modification, and improved rain removal.
STRUCTURAL: Structural changes to the V-22 will increase survivability, improve maintainability and aircraft availability, eliminate component interferences, improve suitability and correct safety related issues. Structural changes include: forward sponson fuel bladder access redesign/install powder panels, environmental control unit Ram air barrier filter, avionics left hand mounting tray, aft upper door strut, add manual drive decal, fold blades in high winds and modified trunnion fitting.
PRODUCTION ROTOR LIGHTING PROTECTION: Improves rotor system lighting protection by adding improved bonding harness and grounding strap bracket.
BRACKET HYDRAULIC LINE CLAMPING: Relocate clamping provisions from the removable conversion actuator fairing to the frame and improve the tube installation.
SWASHPLATE DRAG TUBE: Redesign Swashplate Drag Tube to increase part life.
WASHER: Washer to now be included with attach hardware to ensure adequate tying of the assembly.
RELIABILITY & MAINTAINABILITY FIXES: Includes Corrective Action Plans to make the aircraft compliant with Operation Requirements Document requirements.

ECP-400:

AIRCRAFT MAINTENANCE TRAINER: Improves training and pilot proficiency by incorporating modifications to the AMT to reflect most current aircraft configuration as directed by Blue Ribbon Panel.

ECP-397:

FULL FIDELITY SIMULATOR (FFS) UPGRADES: Improves training and pilot proficiency by incorporating modifications to the FFS #1 & #2 to reflect most current aircraft configuration as directed by Blue Ribbon Panel.
FLIGHT TRAINING DEVICE (FTD) UPGRADES: Improves training and pilot proficiency by incorporating modifications to the FTD #1 to reflect most current aircraft configuration as directed by Blue Ribbon Panel.

ECP-427R1:

MECHANICAL PART TASK TRAINER: Improves maintainer and aircrew proficiency by incorporating Block 'A' configuration changes.

Future Block ECP:

PRE BLOCK A through BLOCK C: Major configuration changes include: Nacelle changes, Avionics, Blade Fold Harness, Fuel Probe, Active Vibration Suppression System, Constant Frequency Generator and Variable Frequency Generator. Additional configuration changes include Effectiveness and Suitability and Enhanced Capability.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The MV-22 aircraft are currently in Low Rate Production. First acceptance and incorporation has been in production aircraft. ECP-344/348, ECP-397, and ECP-400 Kit deliveries and Installations are on schedule.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY2009		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Installation Kits																				
ECP V-22-0344																				
CCP10641R2/Display System Upgrade/Flat Panels	8	2.2																		
CCP 10670R1/Implementation of Cockpit Intercom Mod	8	0.3																		
CCP10703r1/Advanced Mission Computer Post Part Number Roll	8	3.0																		
CCP10716/Swashplate Actuator	8	4.5																		
CCP 10718/Eng Gimbaling Ring Spherical Bearing Instl	4	0.3																		
CCP 40008/Night Vision Goggles Compatibility Rqmt Cockpit Hardware	8	0.2																		
CCP V-22-0161/Shaft Driven Compressor Reliability Improvementl	8	0.3																		
CCP V-22-0177R1/Instl Pwdr Panels, Fwd Sponsor Fuel Bladder Access Redesign	8	2.6																		
CCP V-22-0188/Data Transfer Module Proposal	8	0.4																		
CCP V-22-0192R1/Regulated Converter	8	2.0																		
CCP V-22-0206/Inertial Reels	8	0.2																		
CCP V-22-0216/Control Display Unit/Engine Instru. Crew Alerting System Redesign	8	1.0																		
CCP V-22-0217/Shaft Driven Compressor	8	0.1																		
CCP V-22-0224/Avionics Left Hand Mounting Tray	8	0.2																		
CCP V-22-0249/Environmental Control Unit Ram Air Barrier Filter	8	2.6																		
CCP V-22-0279/Update Ramp Actuator - 113	8	1.4																		
CCP V-22-0290/Pilot/Copilot Restraint Sys																				
CCP V-22-0296/Cargo Restraint System																				
CCP V-22-0301/Control Display Unit Keyboard Redesign	8	0.6																		
CCP V-22-0319/Refuel/Defuel Valve	8	0.4																		
CCP V-22-0107/Thrust Control Lever Soft Stop	2	0.1																		
CCP V-22-0138/Aft Upper Door Strut	8	0.1																		
CCP V-22-0147/Rain Removal	6	0.2																		
CCP V-22-0151/Add Manual Drive Decal	4	*																		
CCP V-22-0160/Fold Blades in High Winds																				
CCP V-22-0162/Bull Gear Shroud																				
CCP V-22-0163/Swashplate Gimbal Ring	8	0.6																		
CCP V-22-0208/Fuel Isolation Tubes	8	0.3																		
CCP 10692/Trunnion	8	0.8																		
CCP-TBD Reliability and Maintainability Changes																				
CCP TBD NACELLE Safety Improvements																				
ECP V-22-0348/Interface Units	8	0.3																		
Pre Block A to B																				
Block A to C																				
Block B to C																				
Installation Kits N/R		3.5																		
Installation Equipment																				
XXX Equip																				
Installation Equipment N/R		0.6																		
Engineering Change Orders																				
XXX Kit ECO XXX																				
XXX Equip ECO XXX																				
Data		0.2																		
Training Equipment	4	20.9		3.7	2	4.3	2	3.3												
Support Equipment																				
ILS		1.0																		
Other Support																				
Interim Contractor Support																				
Installation Cost	1	1.2	1	0.4		0.5	2	0.2												
Total Procurement		**52.0**		**4.0**		**4.8**		**3.4**												

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **MV-22** MODIFICATION TITLE: SAFETY, RELIABILITY, INCREASED SERVICE LIFE, IMPROVED MISSION CAPABILITY

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

ADMINISTRATIVE LEADTIME: Various Months PRODUCTION LEADTIME: Various Months

CONTRACT DATES: FY 2003: Various FY 2004: Various FY 2005: Various

DELIVERY DATE: FY 2003: Various FY 2004: Various FY 2005: Various

($ in Millions)

Cost:	Prior Years		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2002 & PY ( ) kits	1	1.2	1	0.4															**2**	**1.5**
FY 2003 ( ) kits						0.5														**0.5**
FY 2004 ( ) kits							2	0.2											**2**	**0.2**
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
FY 2008 ( ) kits																				
FY 2009 ( ) kits																				
To Complete ( ) kits																				
TOTAL	**1**	**1.2**	**1**	**0.4**		**0.5**	**2**	**0.2**											**4**	**2.2**

Installation Schedule

	FY 2002	FY 2003				FY 2004				FY 2005				FY 2006				FY 2007			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	1		1							2											
Out				1		1						2									

	FY 2008				FY 2009				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										